

Tactical Grade MEMS IMUs for Spin-Stabilized Rockets, Phase I

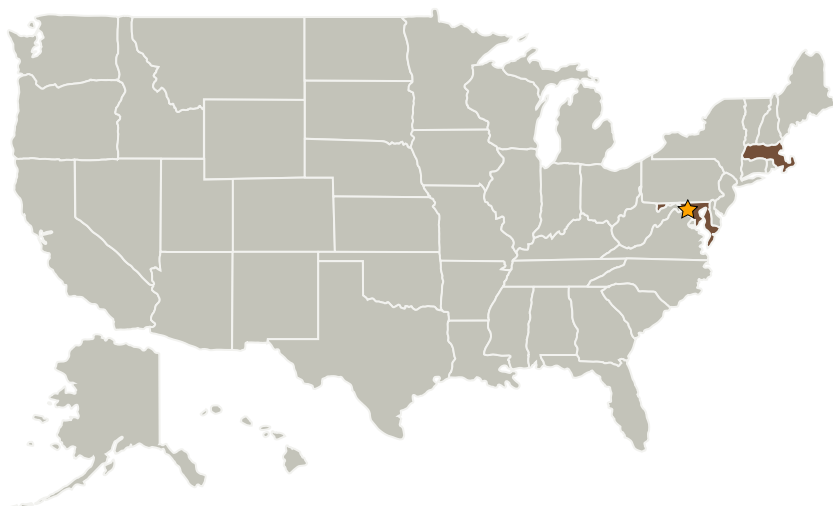
Completed Technology Project (2006 - 2006)



Project Introduction

We propose a tactical grade MEMS IMU for spin-stabilized rockets for metric tracking and autonomous systems. The enabling instrument is a gyroscope designed for very low cross-axis sensitivity. The IMU is formed by integrating all the gyroscopes and accelerometers on a single, planar chip. An advantage of integration is the well-defined alignment of all instruments with respect to the spin axis. During Phase I we propose to design and fabricate a complete IMU and conduct a proof-of-concept test of the enabling gyroscope under high, cross-axis spin rate.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Goddard Space Flight Center (GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Milli Sensor Systems and Actuators, Inc.	Supporting Organization	Industry	West Newton, Massachusetts



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Maryland

Massachusetts

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX14 Thermal Management Systems
 - └ TX14.1 Cryogenic Systems
 - └ TX14.1.3 Thermal Conditioning for Sensors, Instruments, and High Efficiency Electric Motors